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Improving Coping Styles in Family Caregivers of Psychiatric Inpatients Using Planned Behavior Problem-Solving Training

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ABSTRACT

Background: The consequences and high costs of psychiatric disorders impact family caregivers greatly. Health services should identify and provide accessible support programs to facilitate effective caregiver coping.

Purpose: The aim of this study was to determine the effectiveness of a theory-of-planned-behavior-based problem-solving training program on the coping styles of family caregivers of psychiatric inpatients.

Methods: In this two-group, randomized control trial, 72 family caregivers were randomly assigned to either a control group receiving standard care or an intervention group receiving a training program (eight sessions over 4 weeks). Demographic information was recorded at baseline, and the Coping Inventory for Stressful Situations was administered to both groups at baseline, immediately postintervention, and 1-month follow-up.

Results: Immediately after the intervention, the intervention group earned significantly higher task-oriented coping style scores (mean difference = 5.03, $p = .015$) than the control group, but no significant difference was detected between the two groups for either emotion- or avoidance-oriented coping style scores. At 1-month follow-up, the intervention group earned significantly higher scores than the control group for task-oriented (mean difference = 8.56, $p < .001$) and emotion-oriented (mean difference = 7.14, $p = .002$) coping styles. No improvement in avoidance-oriented coping style at the postintervention or follow-up time points was detected.

Conclusions: Implementation by nurses and other health professionals of problem-solving training programs that are based on the theory of planned behavior is recommended to strengthen the use of task- and emotion-oriented approaches that help family caregivers of psychiatric patients better cope with stress.

KEY WORDS:
mental disorders, family carers, problem solving, planned behavior, coping styles.

Introduction

A mental disorder is defined as "a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom" (Paris & Phillips, 2013, p. 51). The burden of mental disorders, particularly in the Eastern Mediterranean region, has increased by 10.8% since 1990 (Charara et al., 2017), with the prevalence of mental disorders in Iran estimated to be 23% (Noorbala et al., 2017).

The consequences and high costs of psychiatric disorders, particularly in terms of family caregivers, demand that health services identify and provide accessible support programs (Alavi, Irajpour, Abdoli, & Saberizafarghandi, 2012; Treichel et al., 2017). Since the modern development of antipsychotic drugs and the rise of the de-institutionalization movement, family members have become increasingly responsible for the care of relatives with mental disorders (Mami, Kaikhavani, Amirian, & Neyazi, 2016). Although families are a vital source of social support, the related responsibilities of care often impose significant stress that impacts the physical, social, and mental well-being of home caregivers and potentially all family members (Treichel et al., 2017). Studies show that family caregivers of close relatives with mental illnesses often experience distress, anxiety, and depression and face increased economic problems that require significant support and training to reduce the burden of care (Cleary, Freeman, Hunt, & Walter, 2005, 2006).

Successful problem solving enhances positive adjustment to function effectively in the face of obstacles and stressors encountered in everyday life (Nezu & D'Zurilla, 2006). Although problem-solving abilities are common to all, there are important individual differences in problem-solving capacity and strategies. The effects that may be experienced by family caregivers depend on many risk factors, including

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schema for responding to stressors known as "coping styles" which are the conscious and logical ways of dealing with life stressors (Basaknezhad, Esfahani, & Mahmoudi, 2012).

Coping strategies have two main functions: to manage problems caused by stress ("problem-focused" coping) and to govern the emotions that arise from stress ("emotion-focused" coping; Parker & Endler, 1996). Problem-focused coping aims to deal with the source of the problem and often involves attempting to provide solutions. This may be enhanced by obtaining further details about the causes of the problem and developing new problem-solving skills. Emotion-focused coping styles aim to control the emotional response to the perception of stress by reducing, alleviating, and/or minimizing the feelings associated with the stressor (Lazarus & Folkman, 1984).

Endler and Parker (1990) proposed three categories of coping styles: (a) task-oriented coping style (TOCS), (b) emotion-oriented coping style (EOCS), and (c) avoidance-oriented coping style (AOCS). The TOCS is problem focused and includes the efforts and thoughts of an individual that are aimed at solving a problem. The EOCS is emotion focused and includes the efforts of an individual to reduce stress by altering his or her emotional responses, including expressed emotion, blaming oneself and others, and passive acceptance (Parker & Endler, 1996). AOCS is a coping strategy that reduces stress by avoidance through the pursuit of other activities that help distance himself or herself from the problem and minimize situation-related stress (Endler & Parker, 1990). Examples of AOCS provided by Endler and Parker (1994) include seeking out other people (social diversion) and using distraction techniques such as self-rewarding activities. Effective responses to stress may reduce the negative effects on the mental health of an individual, resulting in enhanced adaptability and resilience (Ramzi, Sepehri, Ali Pour, & Zare, 2015).

Some researchers have shown the effectiveness of interventions on these coping styles (Bademli & Duman, 2014; Ramzi et al., 2015; Shoaa Kazemi, Monemi Motlagh, & Saadati, 2013). As each coping style is a particular response to a problem, improving problem-solving abilities may enhance coping (Chinaveh, 2013).

Models of human behavior often assume that behavior is a reasoned process in which individuals actively assess and purposefully decide on actions. The theory of planned behavior is the most widely used social science framework of this type (Barber, 2011). This theory explains the specific behaviors of people who are exposed to stress and emphasizes the use of related behaviors in problem solving. It is a theory that links individual beliefs to behaviors and identifies three factors that are involved in shaping behavioral intentions and behaviors. In this model, human behavior is influenced by three belief structures: (a) beliefs about the probable results of his or her behavior and evaluations of these results, (b) beliefs about expectations of the behaviors of others in particular situations, and (c) beliefs about the existence of facilitators or inhibitors of behaviors and the power of these factors to determine behavior (Ajzen, 2011).

Nurses and other health professionals have an important role in responding to this area of need for families that are caring for people with psychiatric disorders. The shortage of nursing staff and the rising cost of healthcare provide challenges for the provision of family-oriented services (Hoseini-Esfidarjani & Negarandeh, 2017). Health professionals, especially nurses who often have the most extensive interactions with family members, are in a good position to provide the assistance and support to family caregivers necessary to enable their effective coping with stressful situations.

Incorporating training methods for problem solving using basic concepts of the theory of planned behavior may enhance the adoption of more effective coping styles by family caregivers of psychiatric patients by providing them with an improved understanding of the antecedents and consequences of decisions. The objective of this study was to determine the effect of a theory-of-planned-behavior-based training program for enhancing problem-solving skills on the coping styles of family caregivers of psychiatric patients.

Methods

Research Design and Participants

This two-group, randomized control trial was conducted from January to November 2017. The study population consisted of family caregivers of patients with diagnosed mental disorders who visited the medical center of the Isfahan University of Medical Sciences (IUMS), Iran, during the control trial period.

Seventy-two participants were recruited and randomly assigned to either the intervention or control group. Statistical software was used to generate a randomization assignment sequence that ensured an equal number of participants in both groups. Each participant was assigned a participant number, which was then matched to the randomization list for assignment. A consort flow diagram (Moher, Schulz, & Altman, 2001) of the study is provided in Figure 1. The inclusion criteria were as follows: (a) nominated carer for the person with a mental disorder; (b) caring for a patient with a confirmed mental disorder, as documented in the patient's medical records; and (c) proficiency in reading and writing Persian. The exclusion criteria were as follows: (a) history of known mental disorder(s) for the main caregiver; (b) caring for more than one family member with a disorder (not necessarily a mental disorder); and (c) concurrent enrollment in another coping style program. Participants who did not attend more than two sessions of the training program intervention were excluded from data analysis.

Instruments

At baseline, demographic information was recorded (including age, number of family members, gender, marital status,

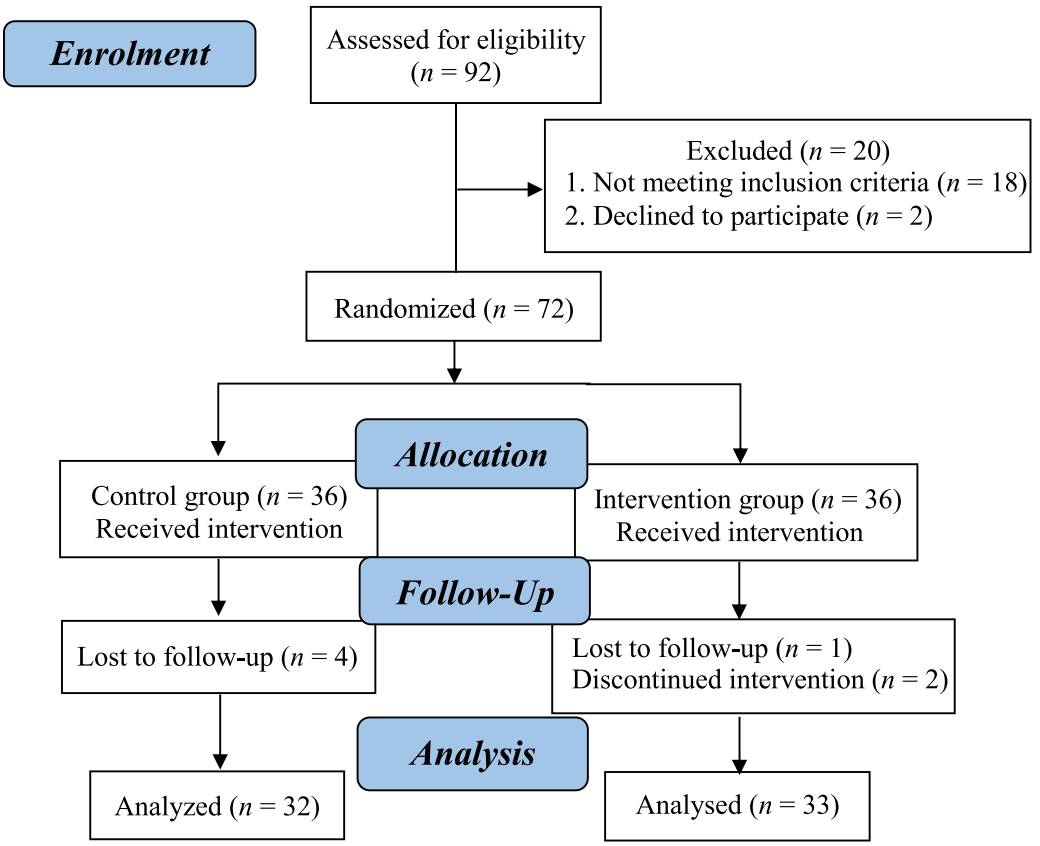

Figure 1. CONSORT flow diagram for the study.

hospitalization history, accommodation arrangements, and relationship to the patient) and the Persian version of the Coping Inventory for Stressful Situations (CISS) was administered (Endler & Parker, 1990). The CISS was developed by Endler and Parker (1990) to evaluate coping styles in stressful situations. This 48-item instrument uses a 5-point Likert scale ("never" to "always"), with 16 items related to each coping style. The dominant style of each individual is determined by the coping style that earns the highest score. The structure and scoring of the Persian version of the CISS are the same as those of the original version. The reliability of the Persian version of this instrument is high, with the Cronbach's alpha coefficient ranging from .82 to .92 across the subscales (Bahrami, 1997).

Data Collection

Potential participants were informed of the trial requirements for both the control and intervention groups and provided with a consent from that addressed issues of confidentiality and advised them of their right to withdraw from the study at any time. After obtaining informed written consent, the demographic and CISS questionnaires were administered to both groups. The intervention group then received two, 60-minute sessions per week over 4 continuous weeks for a total of eight sessions.

The intervention was developed based on a literature review and informed by a panel of five identified experts in both nursing and psychology. The intervention was delivered to small groups of eight to 12 subjects and consisted of educational instruction followed by feedback and group discussion. A summary of the content of the intervention sessions is presented in Table 1. The control group received routine services, which included participation in weekly educational classes held by the hospitals on the topic of caring for psychiatric patients.

The pretest, posttest, and intervention sessions were conducted at the conference hall of a hospital that is affiliated with the IUMS. The sessions were conducted by an experienced researcher/mental health nurse. Immediately after the last session, the CISS questionnaire was completed by all of the study participants (immediately postintervention) and then 1 month later by phone (1-month follow-up).

Data Analysis

The collected data were analyzed using the independent *t* test for the continuous variables and Fisher's exact test for the categorical variables. The normality assumption for the parametric tests was satisfied using the Kolmogorov–Smirnov test. Between-group tests for CISS data were performed on mean scores as well as the mean differences of the scores from baseline, also known as gain scores (gain defined as posttest minus

TABLE 1.
A Summary of the Content of the Problem-Solving Skill Program Based on the Theory of Planned Behavior

Session	Goal and Topic
1	Introduction to the program, familiarization with training process, general work of the group, and primary concepts
2	Studying attitudes toward an issue or a problem
3	Examining the strategies for dealing with a problem and identifying possible solutions
4	Evaluating problem-solving strategies and attitudes toward them
5	Prioritization and planning solutions: planning based on behavioral control strategy
6	Implementing strategies: practicing the behavioral control program
7	Reevaluating solutions: reevaluating solutions, attitudes toward the solution, and behavioral consequences
8	Assessing solutions and institutionalizing the problem-solving model

pretest; May & Hittner, 2010) for each coping style, using an independent *t* test to determine the effectiveness of the intervention. Statistical analysis was performed using SPSS Software Version 18.0 (SPSS, Inc., Chicago, IL, USA). For all analyses, $p < .05$ was considered significant.

Ethical Considerations

Ethical approval for the study protocol was provided by the research committee of the IUMS (approval number: 395949; 2017). All of the participants provided informed consent and were advised that they could withdraw from the study at any time.

Results

Individual and demographic characteristics of the participants are presented in Table 2, with results showing no significant differences between the two groups in terms of the measured characteristics.

The mean values for the three coping styles at baseline, postintervention, and 1-month follow-up are presented in Table 3. There were no significant differences between the groups at baseline, with mean scores similar for both groups across all three coping styles. Compared with pretest scores, there were a significant increase in the mean TOCS score of the intervention group immediately postintervention (mean difference = 5.03, $p = .015$) and no significant changes in the mean scores of the EOCS and AOCS immediately postintervention. At 1-month follow-up, the intervention group had significantly higher mean TOCS (mean difference = 8.56, $p < .001$) and EOCS (mean difference = 7.14, $p = .002$) scores than the control group and showed no improvement in mean AOCS at either the postintervention or 1-month follow-up time points.

Mean changes from baseline for the three coping styles immediately postintervention and 1-month follow-up time points are presented in Table 4. There were no significant differences in the TOCS and EOCS mean score change at postintervention. At 1-month follow-up, the mean score change was significantly higher for the intervention group than the control group for both the TOCS (intervention = 8.99, control = 1.30; $p = .02$) and EOCS (intervention = 6.32, control = –0.50; $p = .02$). The results for the gain score

TABLE 2.
Baseline Intergroup Comparison of Individual and Demographic Characteristics (N = 65)

	Intervention Group		Control Group		
Variable	*n*	%	*n*	%	*p*
Age (years; *M* and *SD*)	38.69	11.81	37.41	11.90	.67
Gender					
Male	9	27.3	7	21.9	.77
Female	24	72.7	25	78.1	
Marital status					
Married	27	81.8	20	62.5	.21
Single	5	15.2	9	28.1	
Widow	1	3.0	3	9.4	
Hospitalization history[a]					
Yes	14	43.8	20	62.5	.21
No	18	56.2	12	37.5	
Housing status[a]					
Owned	18	58.1	19	59.4	1.00
Rented	13	41.9	13	40.6	
Occupation[a]					
Unemployed	18	58.1	20	62.5	.30
Employed	10	32.3	12	37.5	
Retired	3	9.6	0	0.0	
Relationship between patient and caregiver[a]					
Spouse	6	19.4	6	19.4	.30
Child	5	16.1	10	32.3	
Other	20	64.5	15	48.4	

[a]Missing data.

TABLE 3.

Between-Group Comparison of Coping Styles at Baseline, Immediately Postintervention, and 1-Month Follow-Up

Coping Style/ Time Point	CISS Score: Intervention Group (n = 33) Mean	*SD*	Control Group (n = 32) Mean	*SD*	*t*	*p*
TOCS						
Baseline	51.58	9.88	50.98	11.67	0.32	.750
Postintervention	57.27	8.49	52.24	7.74	2.49	.015
1-Month follow-up	60.84	7.57	52.28	9.74	3.96	< .001
EOCS						
Baseline	50.03	8.10	49.68	7.97	0.17	.860
Postintervention	53.15	9.92	49.88	8.65	1.42	.160
1-Month follow-up	56.35	9.01	49.19	8.55	3.28	.002
AOCS						
Baseline	41.95	9.14	42.21	9.09	−0.12	.909
Postintervention	40.98	7.98	40.41	6.97	0.31	.761
1-Month follow-up	42.86	9.51	42.75	8.23	0.05	.960

Note. CISS = Coping Inventory for Stressful Situations; TOCS = task-oriented coping style; EOCS = emotion-oriented coping style; AOCS = avoidance-oriented coping style.

analysis are similar to those from the analysis performed on the mean scores at each time point (Table 4). There was no significant difference in the AOCS scores, although the mean change was higher for the intervention group than for the control group at both time points.

Discussion

The findings of this study indicate the effectiveness of this intervention in promoting the acquisition of certain coping styles, with both TOCS and EOCS showing a more significant increase in the intervention group than in the control group at 1-month postintervention. These results accord with previous research that has attempted to modify the coping styles of individuals using various interventions to improve resilience against stress-related factors. For example, a study that was designed to examine the effect of family support on the coping styles of adult caregivers of psychiatric patients found a positive effect of the intervention on their coping styles (Bademli & Duman, 2014).

Although few studies have investigated interventions with the goal of promoting effective coping styles in family caregivers, a number of related studies have shown the effectiveness of this approach in other populations. Dehghani, Farmanbar, Pakseresht, and Kazemnezhad Leili (2014) reported on the successful strengthening of TOCS in female nursing students, and Shoaa Kazemi et al. (2013) showed the effectiveness of using group psychotherapy to improve TOCS in women with breast cancer. It may be the case that TOCS is more easily enhanced by training than the other coping styles. Although strengthening TOCS is generally considered to be a useful outcome because of the association of TOCS with multiple adaptive outcomes (Smith, Saklofske, Keefer, & Tremblay, 2016), each of the coping styles addressed in this study may contribute to resilience under different stress conditions (Alipour, Hashemi, Babapour, & Tousi, 2010). Anshel and Wells (2000) proposed that TOCS is less effective in reducing acute stress because TOCS does not specifically address the primary factors affecting this type of stress such as psychological and personality characteristics, gender, and environmental conditions.

The intervention in this study did not significantly affect the EOCS score immediately after the intervention, although the intervention group achieved significantly higher EOCS scores than the control group at 1-month follow-up. The related findings in the literature on interventions measuring EOCS for various populations are unclear. Zenozyan, Gharai, and Yekeyazdandost (2010) found that a problem-solving training program for students did not improve their use of EOCS immediately postintervention, whereas Shoaa Kazemi et al. (2013) showed the effectiveness of group psychotherapy on the situational use of EOCS in women with breast cancer. The schema therapy framework model (Young, Klosko, & Weishaar, 2006) hypothesizes that coping responses develop from schema that form in the early stages of life and are thus unlikely to be affected by cognitive and behavioral training (e.g., problem-solving method; Young et al., 2006).

TABLE 4.

Between-Group Comparison of Mean Change Scores of Coping Styles Immediately Postintervention and at 1-Month Follow-up, Compared With Pretest

Coping Style/ Time Point	Change in CISS Score: Intervention Group (n = 33) Mean	*SE*	Control Group (n = 32) Mean	*SE*	*t*	*p*
TOCS						
Postintervention	5.42	2.30	1.26	1.98	1.37	.18
1-Month follow-up	8.99	2.18	1.30	2.52	2.31	.02
EOCS						
Postintervention	3.12	2.16	0.20	1.95	1.00	.32
1-Month follow-up	6.32	13.67	−0.50	9.68	2.31	.02
AOCS						
Postintervention	−0.96	2.25	−1.79	1.87	0.28	.78
1-Month follow-up	0.92	2.14	0.54	1.88	0.13	.90

Note. CISS = Coping Inventory for Stressful Situations; TOCS = task-oriented coping style; EOCS = emotion-oriented coping style; AOCS = avoidance-oriented coping style.

Furthermore, this study found that the intervention had no significant effect on AOCS either immediately postintervention or at 1-month follow-up. To the knowledge of the authors, no other studies have evaluated the effect of cognitive and behavioral interventions on AOCS in this population. However, some studies have reported a significant decrease in AOCS for women with breast cancer after a cognitive behavioral intervention for stress management (Forat Yazdi, Giahi Yazdi, & Sorbi, 2017) and reduced use of this coping style after cognitive behavioral therapy for patients with cancer (Moghadam, Makvandi, & Pakseresht, 2015).

Given the differences in the observed outcomes of the three coping styles examined in this study and comparing the results with prior studies, TOCS seems to be the coping style that is most easily enhanced by explicit training. Evidence regarding the success of using interventions (the one employed in this study as well as others) to improve EOCS is mixed. Moreover, the results presented here and in similar studies do not support the use of explicit training to enhance AOCS. It may be the case that problem-solving skills training targets TOCS more than the other coping styles. This finding is consistent with coping style frameworks providing evidence that some coping strategies are more adaptive than others (see, e.g., Ayers, Sandier, West, & Roosa, 1996; Sandler, Wolchik, MacKinnon, Ayers, & Roosa, 1997). The intervention in this study enhanced the adaptive strategy (TOCS) but did not enhance the less adaptive strategies (EOCS and AOCS). The use of problem-focused coping strategies may minimize the harmful effects of stress, with avoidance coping and emotion-focused coping approaches being less effective and potentially related to increased mental health problems (Gupta & Derevensky, 2001).

The results achieved by this intervention accord with evidence from previous studies, indicating that the observed effects may be widespread. This study showed the value of including coping style training into nurse training to help equip the family caregivers of psychiatric patients to cope better with the stressful conditions of caregiving.

Limitations

This study used a randomized controlled trial with control and intervention groups. The control group received standard care, whereas the intervention group received a course of eight sessions. Future studies should compare the effects of receiving a coping style intervention and of receiving another contact session, unrelated to coping styles, of the same duration. Finally, the design and sample population used in this study may limit the generalizability to other populations.

Conclusions

The theory-of-planned-behavior-based problem-solving training program intervention that was applied in this study strengthened the use of task- and emotion-oriented approaches to cope with stress among family caregivers of psychiatric patients. The implementation of this and similar programs by nurses and other health professionals may improve resilience in this vulnerable population. Further work is required to determine the particular aspects of this training that are most effective.

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